

GenCore version 5.1.1.6  
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OM protein - protein search, using sw model

Run on: October 8, 2004, 12:43:42 ; Search time 57,8571 Seconds

(without alignments)  
107,438 Million cell updates/sec

Title: US-10-013-036A-10  
Perfect score: 85  
Sequence: 1 PXXWFXFXPGXAKXGXFNKXG 22

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1586107 seqs, 282547505 residues

Total number of hits satisfying chosen parameters: 1586107

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A\_Geneseq\_29Jan04:\*

1: Geneseq1980s:\*

2: Geneseq1990s:\*

3: Geneseq2000s:\*

4: Geneseq2001s:\*

5: Geneseq2002s:\*

6: Geneseq2003as:\*

7: Geneseq2003bs:\*

8: Geneseq2004s:\*

pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match % | Length | ID         | Description            |
|------------|-------|---------------|--------|------------|------------------------|
| 1          | 71    | 83.5          | 21     | 4 AAB81191 | Aab81191 Streptococcus |
| 2          | 71    | 83.5          | 22     | 3 AAY77448 | Aay77448 Streptococcus |
| 3          | 71    | 83.5          | 22     | 3 AAY77447 | Aay77447 Streptococcus |
| 4          | 71    | 83.5          | 22     | 4 AAB81190 | Aab81190 Streptococcus |
| 5          | 71    | 83.5          | 25     | 4 AAY77449 | Aay77449 Streptococcus |
| 6          | 71    | 83.5          | 25     | 4 AAB81192 | Aab81192 Streptococcus |
| 7          | 67    | 78.8          | 22     | 6 AEG1733  | Abg1733 S. mutans      |
| 8          | 67    | 78.8          | 22     | 6 AEG1734  | Abg1734 S. mutans      |
| 9          | 64    | 75.3          | 22     | 6 AEG1732  | Abg1732 S. mutans      |
| 10         | 63    | 74.1          | 22     | 6 AEG1737  | Abg1737 S. mutans      |
| 11         | 62    | 72.9          | 22     | 6 AEG1736  | Abg1736 S. mutans      |
| 12         | 62    | 72.9          | 22     | 6 AEG1735  | Abg1735 S. mutans      |
| 13         | 62    | 72.9          | 62     | 6 AEG1734  | Abg1734 S. mutans      |
| 14         | 62    | 72.9          | 63     | 2 AAB90343 | Aab90343 S. mutans     |
| 15         | 62    | 72.9          | 63     | 6 AEG1726  | Abg1726 S. mutans      |
| 16         | 61    | 71.8          | 22     | 6 AEG1730  | Abg1730 S. mutans      |
| 17         | 58    | 68.2          | 22     | 6 AEG1728  | Abg1728 S. mutans      |
| 18         | 58    | 68.2          | 22     | 6 AEG1731  | Abg1731 S. mutans      |
| 19         | 58    | 68.2          | 22     | 6 AEG1729  | Abg1729 S. mutans      |
| 20         | 45    | 52.9          | 22     | 1 AAP91366 | Aap91366 Sequence      |
| 21         | 45    | 52.9          | 47     | 2 AAR5080  | Aar5080 Hyacin M5      |
| 22         | 45    | 52.9          | 51     | 6 ABG72550 | Abg72550 Streptococcus |
| 23         | 45    | 52.9          | 52     | 1 AAP98498 | Aap98498 Sequence      |
| 24         | 45    | 52.9          | 52     | 2 AAR37315 | Aar37315 EpiA prot     |
| 25         | 45    | 52.9          | 52     | 2 AAY03210 | Aay03210 Amino aci     |

Aay43430 S. epider  
Aab11031 S. gallin  
Aap60405 Sequence  
Abm71112 Staphyloc  
Abm70476 Staphyloc  
Aar60073 Bovine ov  
Aao12870 Human pol  
Aar34536 MUREG-2  
Aar45020 Staphyloc  
Aab76243 Staphyloc  
Aab98856 E. coli g  
Aar73991 Bovine ov  
Abg22519 Novel hum  
Aay43460 Flavoprot  
Aau20727 Human nov  
Aao01562 Human pol  
Aab89839 Human pol  
Abb89164 Drosophil  
Aab95474 Human pro

ALIGNMENTS

RESULT 1

AAB81191

ID AAB81191 standard; peptide; 21 AA.

XX AAB81191;

AC AAB81191;

XX 18-JUL-2001 (first entry)

DT 18-JUL-2001 (first entry)

DE Streptococcus mutans mutacin B-Ny266.

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

XX Muracin; B-Ny266; type A lantibiotic; bactericide; gram-positive;

DR WPI; 2001-289846/30.  
 XX Novel mutacin B-Ny266 polypeptide having a spectrum of antibacterial  
 PT activity, useful for combating bacteria and for treating bacterial  
 PT infections.  
 XX  
 XX Claim 3; Fig 1; 11pp; English.  
 XX  
 XX This sequence represents mutacin B-Ny266, which is post-translationally  
 CC modified from a precursor peptide, pro-B-Ny266 (AAB81190). Mutacin B-  
 CC Ny266 is a type A lantibiotic isolated from Streptococcus mutans strain  
 CC is related to Epidermin and Gallidermin (other lantibiotics), and  
 CC contains lanthionine and beta-methyl lanthionine residues. B-Ny266 has  
 CC potent antibacterial activity against 98% of the S. mutans strains  
 CC tested, and also exhibits antibacterial activity against gram positive bacteria  
 CC including Actinobacilli, Actinomyces such as A. viscosus, Bacillus sp.,  
 CC Enterococci, Clostridium sp., Corynebacterium diptheriae, Listeria  
 CC monocytoenes, Mycobacterium phlei, Neisseria, Propionibacterium acnes,  
 CC Staphylococcus and Streptococcus, and Gram-negative strains, e.g.  
 CC Flavobacterium capsulatum. B-Ny266 may also be used as a biopreservative  
 CC and/or stabiliser for cosmetics, in personal hygiene products, as an  
 CC anticaries agent e.g. in toothpastes and mouth washes, as a disinfectant  
 CC cleanser, e.g. in an anti-acne composition, in foodstuffs for preventing  
 CC spoilage, e.g. meats, dairy products, beer and wine, and as a selective  
 CC agent in culture media  
 XX  
 XX Sequence 21 AA;  
 CC  
 CC Query Match 83.5%; Score 71; DB 4; Length 21;  
 CC Best Local Similarity 80.0%; Pred. No. 4e-07;  
 CC Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;  
 CC  
 CC QY 1 FKKWYFXXPGAKXGAFNKY 20  
 CC DB 1 FKKWYFXXPGAKXGAFNKY 20  
 CC  
 CC RESULT 2  
 CC AAY77448  
 CC ID AAY77448 standard; peptide; 22 AA.  
 CC AC AAY77448;  
 CC XX  
 CC XX 12-SEP-2003 (revised)  
 CC DT 22-MAY-2000 (first entry)  
 CC XX  
 CC DE Streptococcus mutans mutacin B-Ny266.  
 CC XX  
 CC KW Mutacin; lantibiotic type A; post-translational modification;  
 CC KW bacteriocin; Gram-positive; bactericide; antibacterial;  
 CC KW growth inhibition.  
 CC XX  
 CC OS Streptococcus mutans; str. Ny266.  
 CC XX  
 CC FH Key Location/Qualifiers  
 CC FT Modified-site 3..7  
 CC FT /note= "Residues 3 and 7 combine to form lanthionine"  
 CC FT Modified-site 5  
 CC FT /note= "2,3-didehydroalanine"  
 CC FT Modified-site 8..11  
 CC FT /note= "Residues 8 and 11 combine to form beta-methyl  
 CC FT lanthionine"  
 CC FT Modified-site 14  
 CC FT /note= "(2)-2,3-didehydrobutyrine"  
 CC FT Modified-site 16..21  
 CC FT /note= "Residues 16 and 21 combine to form lanthionine"  
 CC FT Modified-site 19..22  
 CC FT /note= "Residues 19 and 21 combine to form Dha-S-Ala  
 CC FT (AVI)"  
 CC XX  
 CC XX CA2209893-A1.  
 CC PN  
 CC XX 08-MAR-1999.  
 CC PD

Fri Oct

XX 08-SEP-1997; 97CA-02209893.  
 XX 08-SEP-1997; 97CA-02209893.  
 XX (UYLA-) UNIV LAVAL.  
 XX Lacroix C, Mota-Meira M, Lapointe G, Lavoie M;  
 XX WPI; 2000-171592/16.  
 XX Novel mutacin isolated from Streptococcus mutans designated and B-Ny266,  
 PT useful for treating Gram positive bacterial infections.  
 XX  
 XX Claim 3; Fig 1; 42pp; English.  
 XX  
 XX This sequence represents mutacin B-Ny266, which is post-translationally  
 CC modified from a precursor peptide, pro-B-Ny266 (AAY77447). Mutacin B-  
 CC Ny266 is a 2.27 kD bacteriocin isolated from Streptococcus mutans strain  
 CC Ny266. It is a type A lantibiotic, containing lanthionine and beta-methyl  
 CC lanthionine bridges, and unsaturated amino acids such as 2,3-  
 CC dididehydroalanine, (2)-2,3-didehydrobutyrine and 2-aminobutyric acid  
 CC (Abu). However, its amino acid sequence differs substantially from those  
 CC of other type A lantibiotics. Mutacin B-Ny266 is structurally related to  
 CC the lantibiotics epidermin and gallidermin, and has potent antibacterial  
 CC activity against 98% of the S. mutans strains tested and all other of the  
 CC Gram positive bacteria tested, including Neisseria subflava, Clostridium  
 CC bifementans and Bacillus cereus. It was additionally shown to inhibit  
 CC the growth of the Gram-negative bacterium Flavobacterium capsulatum,  
 CC indicating that the activity of mutacin B-Ny266 is not limited to Gram-  
 CC positive strains. The mutacin is used to treat Gram positive infections  
 CC in animals (especially humans infected with Actinobacilli, Bacillus  
 CC species, Clostridium species, Corynebacteria, Enterococci, Listeria  
 CC monocytoenes, Neisseria species, Mycobacterium phlei, Staphylococci,  
 CC Streptococci, and Propionibacter species). B-Ny266 may also be used as a  
 CC biopreservative and/or stabiliser for cosmetics, in personal hygiene  
 CC products, as an anticaries agent (e.g. in toothpastes and mouth washes),  
 CC as a disinfectant cleanser (e.g. in an anti-acne composition), in  
 CC foodstuffs for preventing spoilage (e.g. meats, dairy products, beer,  
 CC and wine), and as a selective agent in culture media. (Updated on 12-SEP-  
 CC 2003-to standardise OS field)  
 CC  
 CC Sequence 22 AA;  
 CC Query Match 83.5%; Score 71; DB 3; Length 22;  
 CC Best Local Similarity 80.0%; Pred. No. 4.2e-07;  
 CC Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;  
 CC  
 CC QY 1 FKKWYFXXPGAKXGAFNKY 20  
 CC DB 1 FKKWYFXXPGAKXGAFNKY 20  
 CC  
 CC RESULT 3  
 CC AAY77447  
 CC ID AAY77447 standard; peptide; 22 AA.  
 CC AC AAY77447;  
 CC XX  
 CC XX 12-SEP-2003 (revised)  
 CC DT 22-MAY-2000 (first entry)  
 CC XX  
 CC DE Streptococcus mutans mutacin precursor, prob-Ny266.  
 CC XX  
 CC KW Mutacin; precursor; lantibiotic type A; post-translational modification;  
 CC KW bacteriocin; Gram-positive; bactericide; antibacterial;  
 CC KW growth inhibition.  
 CC XX  
 CC OS Streptococcus mutans; str. Ny266.  
 CC XX  
 CC PN CA2209893-A1.  
 CC XX 08-MAR-1999.  
 CC PD